[0074] An average value of an output current of voltage regulator unit **400** may then be determined (block **706**). In various embodiments, circuits **307** may determine an intermediate value dependent upon the duration of the particular pulse and at least one constant of proportionality. The intermediate value may then be multiplied by a voltage level of the switch node **415** to generate the average value of the output current of voltage regulator unit **400**. In various embodiments, one or more performance parameters may be adjusted dependent upon the average value of the output current. The method may then conclude in block **507**.

[0075] It is noted that the operations illustrated in the flowchart of FIG. **7** are depicted as being performed in a sequential fashion. In other embodiments, one or more of the illustrated options may be performed in parallel.

[0076] Although specific embodiments have been described above, these embodiments are not intended to limit the scope of the present disclosure, even where only a single embodiment is described with respect to a particular feature. Examples of features provided in the disclosure are intended to be illustrative rather than restrictive unless stated otherwise. The above description is intended to cover such alternatives, modifications, and equivalents as would be apparent to a person skilled in the art having the benefit of this disclosure.

[0077] The scope of the present disclosure includes any feature or combination of features disclosed herein (either explicitly or implicitly), or any generalization thereof, whether or not it mitigates any or all of the problems addressed herein. Accordingly, new claims may be formulated during prosecution of this application (or an application claiming priority thereto) to any such combination of features. In particular, with reference to the appended claims, features from dependent claims may be combined with those of the independent claims and features from respective independent claims may be combined in any appropriate manner and not merely in the specific combinations enumerated in the appended claims.

What is claimed is:

1. An apparatus, comprising:

a counter unit configured to:

receive a signal from a Power Management Unit (PMU), wherein the signal includes a plurality of pulses; and

determine a number of pulses received during a predetermined period of time;

a pulse sampler unit configured to:

receive the signal from the PMU; and

determine a duration of a given pulse of the plurality of pulses; and

circuitry configured to determine a value of an average current through an inductor included in the PMU dependent upon the number of pulses and the duration of the given pulse.

2. The apparatus of claim **1**, wherein to determine the value of the average current through the inductor, the circuitry is further configured to multiply a value of a power supply coupled to the PMU by an intermediate value, wherein the intermediate value is dependent upon the duration of the given pulse, and at least one constant.

3. The apparatus of claim **2**, wherein the at least one constant includes a constant of proportionality between a first value of current through the inductor and the value of the power supply coupled to the PMU.

4. The apparatus of claim **2**, wherein the circuitry is further configured to determine a value of the constant during a calibration mode.

5. The apparatus of claim **1**, wherein the counter unit includes a plurality of flip-flop circuits, wherein each flip-flop circuit of the plurality of flip-flop circuits is coupled to a clock signal.

6. The apparatus of claim **5**, wherein to determine the duration of a given pulse of the plurality of pulses, the pulse sampler unit is configured to sample the given pulse dependent upon the clock signal.

7. A method, comprising:

generating at least one control signal for a voltage regulator, wherein the at least one control signal includes a plurality of pulses;

determining a number pulses of the plurality of pulses that occur during a predetermined period of time;

determining a duration of a given pulse of the plurality of pulses; and

determining a value of an average value of an output current of the voltage regulator dependent upon the number of pulses and the duration of the given pulse.

8. The method of claim **7**, wherein the predetermined period of time is programmable.

9. The method of claim **7**, wherein determining the number of pulses of the plurality of pulses includes incrementing a counter in response to detecting a particular pulse of the plurality of pulses.

10. The method of claim **9**, further comprising resetting the counter in response to determining the predetermined period of time has elapsed.

11. The method of claim **7**, wherein the output current flows through an inductor included in the voltage regulator.

13. The method of claim **7**, further comprising performing a calibration operation to determine at least one constant of proportionality between a first value of the output current of the voltage regulator and a voltage level of a power supply coupled to the voltage regulator.

14. A system, comprising:

a power management unit (PMU) configured to send a control signal for a voltage regulator to:

generate a control signal, wherein the control signal includes a plurality of pulses; and

couple a first terminal of a inductor to a power supply dependent upon the control signal, wherein a second terminal of the inductor is coupled to an output terminal of the PMU; and

a first integrated circuit that includes a power supply terminal coupled to the output terminal of the PMU, wherein the first integrated circuit is configured to:

receive the control signal from the PMU;

determine a number of pulses received during a predetermined period of time;

determine a duration of a given pulse of the number of pulses received during the predetermined period of; and

determine a value of an average current through the inductor dependent upon the number of pulses and the duration of the given pulse.

15. The system of claim **14**, wherein the first integrated circuit is further configured to determine a voltage level of the power supply coupled to the PMU dependent upon the number of pulses and the duration of the given pulse.